

REMARKS:

The courtesies extended to the undersigned by Examiner Leo T. Hinze during the telephone interview held December 7, 2009, are acknowledged and appreciated. As discussed with Examiner Hinze, applicants, their principal representatives in Germany and the undersigned have carefully reviewed the Final Office Action in the subject U.S. patent application, together with the prior art newly cited and relied on in the rejections of the claims. In response, the claims have again been amended to even more clearly patentably define the subject invention over the newly cited prior art. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

As discussed with Examiner Hinze during the interview, the subject invention is directed to a rotating body that is a part of a printing press. While the Substitute Specification and drawings disclose and depict a plurality of embodiments of such a rotating body, the claims of the subject application are directed to the embodiment of the disclosed invention which is depicted in Figs. 9-11 and which is described primarily in paragraphs 0065 to 0068 of the Substitute Specification.

Referring now to those drawing figures and paragraphs of the Substitute Specification, the subject invention, as recited in currently amended claim 69 is directed to a rotating body, generally at 01, in a printing press. The rotating body has a rotating body barrel that includes a base body, generally at 17. The base body 17 has a base body axial length, as may be seen in Fig. 9. It is situated inside an outer body which is depicted at 19. The outer body 19 has an axial length that is at least as great as the

base body axial length. The base body 17 is defined by an outer, closed, cylindrical surface 18 which is spaced from an inner surface of the outer body 19. The spacing defines a fluid impermeable annular space between the base body and the outer body.

A plurality of sleeves 38 of a thermal insulating material are placed in the annular space between the base body and the outer body. Each of these sleeves 38 has an axial length that is less than the axial length of the base body. The plurality of sleeves 38 of the thermally insulative material are abutting each other in the fluid impermeable annular space between the base body and the outer body. The plurality of abutting axially extending sleeves have a combined sleeve length that is not greater than the base body axial length.

Each of the plurality of sleeves is provided with a plurality of circumferentially spaced, axially extending temperature control medium flow channels 21. The arrangement of this plurality of axially extending flow channels 21 may be seen more clearly in Figs. 10 and 11 of the drawings. Each of these flow channels is formed in an outer portion of its respective sleeve and is in heat transfer contact with the outer body 19 of the rotating body. Each of the flow channels is also thermally insulated from the outer surface of the base body.

The plurality of circumferentially spaced, axially aligned temperature control medium flow channels in each of the plurality of abutting sleeves are aligned with corresponding flow channels in the other sleeves. These aligned flow channels thus form continuous axially extending temperature control medium flow channels in the annular fluid impermeable space between the base body and the outer body.

At least one fluid inflow for a temperature control medium is provided at a first end of the base body. At least one fluid outflow for the temperature control medium is located at a second end of the base body. As may be seen in Fig. 9, the inflow 34 is situated at the right end of the base body. The outflow, also identified as 34, is located at the left end of the base body. The temperature control medium thus flows into the axially extending channels at the right end of the rotating body, passes axially along the plurality of axially extending channels 21 and exits the body through the outflows at the left of the base body. The temperature control medium exchanges heat with the outer body over the length of the flow channels while being thermally insulated from the base body.

In the Final Office Action of September 10, 2009 in the subject U.S. patent application, claims 123, 124, 126, 128-136 and 138 were withdrawn from consideration. As was discussed with Examiner Hinze, all of these claims are believed to be rejoineable once independent claim 69 has been indicated as being allowable. While these claims are continued to be withdrawn, various ones of them have been amended to conform their language to that of currently amended, independent claim 69 in anticipation of their rejoinder.

Claim 80 was objected to as depending from cancelled claim 79. Claim 80 has now been amended and now depends from believed allowable, currently amended independent claim 69. It is believed that this overcomes the objection to claim 80.

Claims 69-71, 73, 76, 78, 82, 84, 112, 115 and 121 were rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Published Patent Application No.

2003/0029603 to Yamashita et al. It was asserted that Yamashita shows a rotating body of a printing press and has a rotating body barrel 4 including a base body 18 and an outer body positioned radially from the base body. It was further asserted that at least one sleeve of a thermally insulating material was enclosed in the annular space. Elements 22 was asserted as forming such a sleeve.

It was further asserted in the Final Office Action that this at least one sleeve 22 had at least one temperature control medium flow channel including at least one inflow and one outflow. This asserted channel in the sleeve 22 was further stated as being thermally insulated from the base body by the thermally insulating material.

In preparation for the telephone interview of December 7, 2009 with Examiner Hinze, the undersigned e-mailed Examiner Hinze colored-in copies of Figs. 9-11 of the subject application, and a colored-in and annotated copy of Fig. 2 of the Yamashita reference. It is assumed that these copies are part of the file of the application. Since they will be referred to in the following discussion, duplicate copies are enclosed herewith.

It is initially to be noted that the Yamashita reference is not directed to a rotating body for a printing press. Instead, it is directed to a rotary cooling roller that is usable in a sheet laminating apparatus. As may be seen in Fig. 1 of Yamashita, a web of paper 2 is pulled of a roll and is passed between a presser roller 3 and the rotatable cooling roller 4. A molten resin is dispensed from a cavity 7 in a resin holder 6a and is caused to flow onto one side of the paper web 2. The rotating cooling roller 4 is used to remove heat from the resultant laminated paper and resin web before that resultant laminated

web 9 is wound on a roll 5.

Referring now to the colored in copy of Fig. 2 of the Yamashita reference, it is agreed that there is depicted a base body 18 shown in brown, and an outer cooling cylinder 4, shown in red. The inner body 18 is perforated and is provided with a large number of radially extending through holes 20. In substantial contrast, the inner or base body 17 of the subject invention, also shown in brown, has an outer closed cylindrical surface (emphasis added), as is recited in currently amended, independent claim 69. It is agreed that the inner body 18 and the outer cylinder 11 of Yamashita do define an annular space between them.

Claim 69 of the subject application recites that there are a plurality of sleeves 38, each of a thermal insulating material, supported on the base body. Claim 69 further recites that these plurality of sleeves 38 are axially abutting. These axially abutting, plurality of sleeves are colored purple in Figs. 9-11 of the subject application. They are clearly described in the Substitute Specification as being formed of a thermal insulating material. In this regard, the attention of the Examiner is directed to paragraph 0067 of the Substitute Specification.

In the Yamashita reference, it was asserted that there is at least one sleeve of a thermal insulating material. That sleeve 22 is, in fact, one of a plurality of ring-shaped spacers which are placed between the inner cylinder 18 and the outer cooling cylinder 11. Their purpose is to maintain the spacing distance between the inner cylinder 18 and the outer cylinder 11. While there is no discussion of the specific material used to fabricate these spacers 22, it is recited that they "...may be welded to the outer surface

of the inner cylinder or the inner surface of the outer cylinder" (emphasis added). The Examiner's attention is directed to the recitation in paragraph 0040 of the Specification of the Yamashita reference. It is quite clear that these plurality of spacers 22 are not made of a thermal insulating material, as that term is defined in the Substitute Specification, and as it is understood in conventional usage.

In currently amended claim 69, it is set forth that the plurality of sleeves are axially abutting and that each is provided with a plurality of axially extending, circumferentially spaced temperature control medium flow channels. These channels are seen more clearly at 21 in Figs. 10 and 11. The axially extending, circumferentially spaced channels in each one of the abutting sleeves are adjoined to each other to form continuous ones of the plurality of axially extending temperature control medium flow channels.

In the Yamashita reference, the plurality of spacers 22 are depicted quite clearly as being spaced apart axially from each other along the length of the roller. These spacers define cylindrical spaces 19 between axially spaced ones of them. While there are provided cutouts 23 in the radial outer surface of each such spacer 22, these cutouts are not temperature control medium flow channels, as will now be discussed in detail.

In the Yamashita device, there is provided a central, hollow supporting shaft 12, shown in green. A water inlet to that shaft 12 is provided at the right end of the shaft, as depicted at 12a. Water is caused to flow into a water chamber 15 at the right end of the cylinder. That water then flows through a plurality of cooling tubes 17 which are located

internally of the inner cylinder 18. The water in those cooling tubes 17 exit into a second water chamber 16 at the left end of the cylinder and then passes into an exit 12b of the hollow supporting shaft 12.

A volatile working fluid is located in the interior of the inner cylinder and can exchange heat with the cooling water that is flowing through the cooling tubes 17. In operation of the Yamashita device, the heat from the extruded resin film 8 is conducted to the outer cylinder 11 of the cooling roller. The now heated outer cylinder 11 heats the volatile working fluid in the interior of the roller. The working fluid turns into a gas when it contacts the outer cooling cylinder 11 and is then brought into contact with the cooling tubes 17 where it gives up its heat to the water in the cooling tubes 17 and is condensed back into a fluid. This fluid flows out through the through-holes 20 and back into the annular space between the inner cylinder 18 and the outer cylinder 11.

It is very clear that the operation of the Yamashita device is quite different from that of the subject invention. The axially separated spaces 22 are provided with cut-outs 23 so that the several sub-spaces 19 between the inner cylinder 18 and the outer cylinder 11 can communicate with each other. The flow direction of the volatile working fluid in the interior of the roller is clearly radial not axial.

Claim 69, as currently amended, recites at least one fluid inflow for the temperature control medium at a first end of the base body. This is the radial passage or passages 34 at the right side of the base body, as seen in Fig. 9. This at least one fluid inflow is caused to flow into the plurality of axially extending continuous channels and to pass axially along those channels to at least one fluid outflow also shown as the

passages 34 now at the left end of the base body, all as depicted in blue in Fig. 9 of the drawing. During this axial passage of the fluid along the continuous flow channels defined by the aligned channels in the plurality of abutting sleeves, heat is exchanged between the outer body and the temperature control medium in the flow channels. That heat is kept away from the outer surface of the base body by the thermal insulative material which forms the sleeves 34. As recited in claim 69, and as seen in Fig. 10 of the drawings, these channels are formed in the outer surface of their respective sleeves. Each such channel is thus thermally insulated from the base body, as recited in currently amended, independent claim 69.

It is quite clear that the subject invention and the Yamashita device are very different in structure and in function. It is believed that currently amended claim 69 sets forth those substantive differences and is thus neither anticipated by, nor rendered obvious over the Yamashita reference. It is therefore believed that currently amended claim 69 is allowable.

All of the dependent claims now in the application, either currently pending or currently withdrawn, all depend from believed allowable, currently amended claim 69. They are thus also believed to be allowable. As discussed with Examiner Hinze, these claims have been amended, where appropriate, to conform their language to that of currently amended claim 69. Allowance of these dependent claims is thus also requested. The secondary reference to Schneider, U.S. Patent No. 6,810,800 which was combined with the Yamashita reference, in the rejection of claim 118, has been reviewed. Its disclosure does not provide the teachings of the subject invention which

are missing in the Yamashita reference.

The several additional references set forth in the PTO-892 form, which accompanied the Office Action of September 10, 2009, have been noted. Since they were not applied against the claims, no further discussion thereof is believed to be required.

SUMMARY:

Independent claim 69, and various ones of the dependent claims now pending in the subject application have been amended. As discussed with Examiner Hinze by telephone on December 7, 2009, it is believed that the claims now pending in the application are patentable. A Request for Continued Examination (RCE) is being filed concurrently to provide Examiner Hinze with sufficient time to give the currently amended claims favorable consideration.

Allowance of the claims, and passage of the application to issue is respectfully requested.

Respectfully Submitted,

Martin BECKER et al.
Applicants

JONES, TULLAR & COOPER, P.C.
Attorneys for Applicants



Douglas R. Hanscom
Reg. No. 26,600

December 10, 2009
JONES, TULLAR & COOPER, P.C.
Customer No. 23294
P.O. Box 2266 Eads Station
Arlington, Virginia 22202
Phone: (703) 415-1500
Fax: (703) 415-1508
E-mail: mail@jonestullarcooper.com
Attorney Docket: W1.1832 PCT-US